



74

Dkt. 0575/55669-Z/JPW/BJA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Cy A. Stein
U.S. Serial No. : 09/832,648
Filed : April 4, 2001
For : OLIGONUCLEOTIDE INHIBITORS OF BCL-XL

1185 Avenue of the Americas
New York, New York 10036
July 12, 2001

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

STATEMENT IN ACCORDANCE WITH 37 C.F.R. §1.821(f)

In accordance with 37 C.F.R. §1.821(f), I hereby certify that the computer readable form containing the nucleic acid and/or amino acid sequences required by 37 C.F.R. §1.821(e) and submitted with the above-identified application contains the same information as the written "Sequence Listing" (25 pages) that is submitted as part of the application.

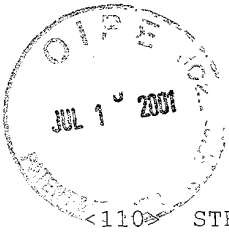
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Brian J. Amos

Brian J. Amos
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
(212) 278-0400

Applicant: Cy A. Stein
U.S. Serial No.: 09/832,648
Filed: April 11, 2001
Exhibit F



SEQUENCE LISTING

<110> STEIN, CY A
 <120> OLIGONUCLEOTIDE INHIBITORS OF BCL-XL
 <130> 0575/55669Z
 <140> 09/832,648
 <141> 2001-04-11
 <150> 09/109,614
 <151> 1998-07-02
 <160> 37
 <170> PatentIn version 3.1
 <210> 1
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> ANTISENSE OLIGONUCLEOTIDE
 <400> 1
 ctcaaccagt ccattgtcca 20
 <210> 2
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> ANTISENSE OLIGONUCLEOTIDE
 <400> 2
 tcccgttgctc tctgagacat 20
 <210> 3
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> ANTISENSE OLIGONUCLEOTIDE
 <400> 3
 gccacagtca tgcccgtcag 20
 <210> 4
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> ANTISENSE OLIGONUCLEOTIDE
 <400> 4

 09/832,648
 04/11/2001

ctgcatccg actcaccaat

20

<210> 5
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 5
 agtcctgttc tcttcac

18

<210> 6
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 6
 ctttactgct gccatggg

18

<210> 7
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 7
 cgccgttctc ctggatccaa

20

<210> 8
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 8
 ctgactccag ctgtatcc

18

<210> 9
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 9
 ggtctccatc tccgattc

18

<210> 10
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 10
 cctggggtga tgtggagc 18

<210> 11
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 11
 agttccacaa aagtatcc 18

<210> 12
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 12
 ctttcggctc tcggtctc 18

<210> 13
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<400> 13
 aaccagcgt tgaagcgt 18

<210> 14
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>

<221> misc_binding
 <222> (6)..(7)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (14)..(15)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (17)..(20)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 14
 ctcaaccagt ccattgtcca

20

<210> 15
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (6)..(7)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (14)..(15)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (17)..(20)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> modified_base
<222> (1)..(1)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (2)..(2)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (3)..(3)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (6)..(6)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (7)..(7)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (10)..(10)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (11)..(12)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (14)..(15)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (17)..(17)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (18)..(19)
<223> PROPYNYL dT

<400> 15

ctcaaccagt ccattgtcca

20

<210> 16
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (7)..(8)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(13)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (17)..(20)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 16
 tcccggttgc tctgagacat

20

<210> 17
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (13)..(15)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (17)..(20)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 17
 gccacagtca tgcccgtcag

20

<210> 18
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> modified_base
 <222> (2)..(3)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (5)..(5)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (8)..(8)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (9)..(9)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (11)..(11)
 <223> PROPYNYL dT

<220>
 <221> modified base
 <222> (13)..(15)
 <223> PROPYNYL dC

<220>

03833643 071604
 109720 040200

<221> modified base
 <222> (17)..(17)
 <223> PROPYNYL dT

<220>
 <221> modified base
 <222> (18)..(18)
 <223> PROPYNYL dC

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (13)..(15)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (17)..(20)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 18
 gccacagtca tgcccgtcag

20

<210> 19
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (2)..(3)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (7)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (12)..(14)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (16)..(20)
 <223> PHOSPHOROTHIOATE LINKAGE

$\langle 220 \rangle$

Page 9

<221> misc_binding
 <222> (1)..(6)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (13)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 20
 agtcctgttc tcttccac

18

<210> 21
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (13)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> modified_base
 <222> (3)..(3)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (4)..(6)
 <223> PROPYNYL dC

$\langle 220 \rangle$

18

<221> misc_binding
 <222> (12)..(13)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (15)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> modified_base
 <222> (1)..(1)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (2)..(4)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (6)..(6)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (7)..(7)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (9)..(9)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (10)..(10)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (12)..(13)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (15)..(15)
 <223> PROPYNYL dT

<400> 22
 ctttactgct gccatggg

<210> 23
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> ANTISENSE OLIGONUCLEOTIDE

<220>
<221> misc_binding
<222> (1)..(2)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> misc_binding
<222> (3)..(5)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> misc_binding
<222> (6)..(12)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> misc_binding
<222> (17)..(20)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> modified_base
<222> (1)..(1)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (3)..(4)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (8)..(8)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (10)..(11)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (17)..(18)
<223> PROPYNYL dC

<220>

<221> modified_base
 <222> (6)..(7)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (12)..(12)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (16)..(16)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (9)..(9)
 <223> PROPYNYL dT

<400> 23
 cgccgttctc ctggatccaa

20

<210> 24
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(2)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (3)..(5)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (6)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (17)..(19)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 24
 cgccgttctc ctggatcca

19

<210> 25
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> ANTISENSE OLIGONUCLEOTIDE

<220>
<221> misc_binding
<222> (1)..(4)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> misc_binding
<222> (5)..(8)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> misc_binding
<222> (11)..(12)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> misc_binding
<222> (15)..(18)
<223> PHOSPHOROTHIOATE LINKAGE

<220>
<221> modified_base
<222> (1)..(1)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (2)..(2)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (5)..(5)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (6)..(6)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (7)..(8)
<223> PROPYNYL dC

<220>

<221> modified_base
 <222> (11)..(11̄)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (12)..(12̄)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (14)..(14̄)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (16)..(16̄)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (17)..(17̄)
 <223> PROPYNYL dC

<400> 25
 ctgactccag ctgtatcc

18

<210> 26
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (5)..(8)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (11)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (15)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 26
ctgactccag ctgtatcc

<210> 27
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> ANTISENSE OLIGONUCLEOTIDE

<220>
<221> misc_binding
<222> (1)..(4)
<223> PHOSPHOROTHATE LINKAGE

<220>
<221> misc_binding
<222> (5)..(7)
<223> PHOSPHOROTHATE LINKAGE

<220>
<221> misc_binding
<222> (9)..(10)
<223> PHOSPHOROTHATE LINKAGE

<220>
<221> misc_binding
<222> (11)..(12)
<223> PHOSPHOROTHATE LINKAGE

<220>
<221> misc_binding
<222> (15)..(18)
<223> PHOSPHOROTHATE LINKAGE

<220>
<221> modified_base
<222> (3)..(3)
<223> PROPYNYL dT

<220>
<221> modified_base
<222> (4)..(4)
<223> PROPYNYL dC

<220>
<221> modified_base
<222> (6)..(7)
<223> PROPYNYL dC

<220>

<221> modified_base
 <222> (5)..(5)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (9)..(9)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (10)..(10)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (11)..(11)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (12)..(13)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (16)..(17)
 <223> PROPYNYL dT

<400> 27
 ggtctccatc tccgattc

18

<210> 28
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (5)..(7)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (9)..(10)
 <223> PHOSPHOROTHIOATE LINKAGE

```
<220>
<221> misc_binding
<222> (15)..(18)
<223> PHOSPHOROTHIOATE LINKAGE
```

18

<220>
<223> ANTISENSE OLIGONUCLEOTIDE

```

<220>
<221> misc_binding
<222> (9)..(10)
<223> PHOSPHOROTHIATE LINKAGE

```

```

<220>
<221> misc_binding
<222> (15)..(18)
<223> PHOSPHOROTHIAE LINKAGE

```

18

<220>
<223> ANTISENSE OLIGONUCLEOTIDE

 $\langle 220 \rangle$

<221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (5)..(6)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (14)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> modified_base
 <222> (3)..(4)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (5)..(6)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (8)..(8)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (14)..(14)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (16)..(16)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (17)..(17)
 <223> PROPYNYL dC

<400> 30
 agttccacaa aagtatcc

18

<210> 31
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (5)..(6)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (14)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 31
 agttccacaa aagtatcc

18

<210> 32
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>

<221> misc_binding
 <222> (15)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> modified_base
 <222> (1)..(1)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (2)..(4)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (8)..(8)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (9)..(9)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (10)..(10)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (11)..(11)
 <223> PROPYNYL dT

<220>
 <221> modified_base
 <222> (12)..(12)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (15)..(15)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (16)..(16)
 <223> PROPYNYL dT

<400> 32
 ctttcggctc tcggtgc

<210> 33
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (8)..(9)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (15)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 33
 ctttcggtc taggtgc

18

<210> 34
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(11)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (15)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>

<221> modified_base
 <222> (3)..(4)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (7)..(7)
 <223> PROPYNYL dC

<220>
 <221> modified_base
 <222> (16)..(16)
 <223> PROPYNYL dC

<400> 34
 aaccagcggg tgaagcgt

18

<210> 35
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ANTISENSE OLIGONUCLEOTIDE

<220>
 <221> misc_binding
 <222> (1)..(4)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (10)..(12)
 <223> PHOSPHOROTHIOATE LINKAGE

<220>
 <221> misc_binding
 <222> (15)..(18)
 <223> PHOSPHOROTHIOATE LINKAGE

<400> 35
 aaccagcggg tgaagcgt

18

<210> 36
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PRIMER

<400> 36
 atgtctcaga gcaaccggga

20

<220>
<223> PRIMER

20